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ABSTRACT

Six conference papers discuss Regional Resource Centers for the Handicapped. Strategies of the Oregon and Utah Centers to accommodate unique regional requirements are explained, and the birth and development of the Regional Resource Centers system is summarized. The role and activities of the resource specialist are defined. Implications of the interface concept for a total special education resource system are explored. The final paper presents a multidimensional field-centered training model designed to assist teachers in adapting research and demonstration products to daily classroom instruction and acquiring new instructional skills. (KW)

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Exceptional Children Conference Papers:

Regional Resource Centers

Papers Presented at the

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Strategies of the Oregon Center to Accommodate
the Unique Regional Requirements

James E. Crosson, Director
Oregon Regional Resource Center
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Resource Center

The Oregon Resource Center was established in the summer of 1969 for the purpose of improving educational services to handicapped children. Following an initial year of planning and development, and a second year of field testing, the Center became fully operational in the Fall of 1971.

The region served by the Oregon Center includes the states of Alaska, Washington, Oregon, Hawaii, Idaho, Guam, and the Trust Territory of the Pacific. The land mass incorporates nearly 843,000 square miles and is characterized by extensive distances between sparsely populated areas, and a predominantly rural culture. Within the region, there are nearly 2,000,000 school aged children and 65,000 teachers.

Of the children, in excess of 65,000 have been identified as having some type of educationally significant handicapping condition. If one assumes, on the basis of national projections, that only 40% of handicapped children within the region have been identified, the total service population potentially exceeds 160,000 children.

Adding to the complexity of the educational problems associated with the geographical characteristics of the region is the factor of great cultural differences of the people within and among the states

and territories. Several American Indian groups are represented, as well as a large portion of native Alaskans and ethnically divergent Pacific Island populations.

In an effort to respond to the diverse needs implicit in a region of this nature, the Oregon Resource Center has elected as its orientation the two-fold process of (a) working toward the development of an expanded delivery system for bringing special educational resources to larger numbers of handicapped children and (b) assisting in the development of manpower to mount the program of expanded systems.

The generic program of the Center is described as field-centered training, which has as its prime characteristic the translation of knowledge about how best to help handicapped children into the everyday functions of teachers. Philosophically, the program is conceived as, and is intended to serve as a functional alternative to "traditional" special education concepts and practices. The basic mission of the program is to provide more and better services to greater numbers of handicapped children.

In order to achieve its ends, the Center has decided to pursue the following strategies:

1. To approach the role of change agent through a process of translating the products of selected research and demonstration activities into more effective programs for handicapped children.
2. To operate within a framework of pragmatism, utilizing a behavioral model of instruction in basic skills which emphasizes the functional relationships of teaching behavior, learning environments and pupil performance.

3. To implement improved programs through a process of providing and demonstrating exemplary techniques, and through emphasis upon the training of teachers and other educational personnel.
4. To maximize the implementation of improved services by initially focusing upon the larger population of handicapped children found in regular classrooms.
5. To work toward the insuring of improved services to all handicapped children, regardless of age or type and severity of handicap, through the establishment of functional resource systems in each state served.
6. To systematically evaluate program effectiveness on the basis of improvements in the behavior of children being served, and to seek solutions to the problem of what works for what child under what conditions.

The Center can be thought of as operating two basic programs--an exemplary service program contained within the boundaries of Lane County, Oregon, and a region-wide field-centered training program. The first serves the Center research and development needs by providing for the development, field-testing, demonstration, and broad scale implementation of improved and expanded services. The second serves as the vehicle by which exemplary services are implemented throughout the five-state region. Both programs are designed to facilitate improved and expanded special services through the development of human, materials, and facilities resources within the context of educational systems changes.

The Center works closely with state, local and intermediate education agencies on a participant planning basis. It seeks to develop functional relationships with other agencies and resources having relevance for handicapped children, and plans for the stimulation and facilitation for innovative training programs within selected teacher training institutions within the region.

While the Center's ultimate goal is to assist each state in its region to develop a functional resource system encompassing local, intermediate, and state level functions, the main focus of systems development activities at this stage of program development is at the level of selected local educational agencies in each state, and the principal procedure for establishing these local systems involves the training and back-up of change agents referred to as Resource Specialists.

Present procedures involve the state agency identifying a district in which a local resource system is to be developed, following which the Center develops a plan of action with the district and local educational agency administrations. Negotiations include the joint selection of a person to receive Resource Specialist training, development of a job description appropriate to district needs and requirements, and specification of continuing mutual Center/district commitment to the process of organizing, implementing, and maintaining the local resource system functions.

Five basic areas of educational competency currently emphasized in the Center's service and training programs are: diagnosis and

prescription, instructional strategies, communications technology and instructional materials, behavior management, and parent education. In addition, the training program offers instruction in the design, implementation and maintenance of resource systems within local and intermediate educational agencies.

The Center's basic program philosophy is represented by the paradigm of diagnostic and prescriptive teaching, which in the sense employed here subsumes each of the above five areas of professional competence. That is, the teacher who effectively applies the diagnostic/prescriptive teaching process will be exercising skills in diagnosing operative academic deficits, prescribing individualized instructional programs, selecting and utilizing appropriate instructional media & materials, determining and applying requisite instructional methods, effecting behavior management programs when necessary to facilitate instruction and involving herself in parent education as appropriate.

Training of Resource Specialists is presently accomplished in an intensive 11 week program. This is a competency-based program which operates on a management-by-objective basis. Program content is an integrated sequence of instruction and practical experience in the above mentioned areas of diagnostic/prescriptive teaching competency, in addition to training in relevant aspects of local resource system design, development, and maintenance (including school politics, interpersonal communication skills, in-service training tactics, and resource materials acquisition and utilization).

As briefly mentioned earlier, development of a model intermediate resource system having several local components is underway in Lane County, Oregon. In this situation, Center-employed Resource Specialists operate a continuous program of demonstration of exemplary diagnostic/prescriptive techniques, and also function to establish resource systems in the schools they serve. This process involves the identification and training of personnel to serve as resource teachers, working with the school administration and teachers to establish a resource facility (including a repository of specialized diagnostic and instructional materials), and coordinating with the Center (which in this case serves the role of a district-level resource center) for provision of back-up services (which may include specific short-term training, consultation, materials evaluation or development, specialized evaluation of classroom programs for handicapped children, etc.).

As part of the process of translation of research into usable forms, the Center has developed sets of criterion referenced tests in reading and math to provide a diagnostic instrument to pinpoint specific educational needs. These "diagnostic inventories" are designed so that a teacher can administer, score and interpret the test in such a way that educational planning can be done directly from the inventory. The tests are composed of sequential behavioral pinpoints in the basic skills from which the child's performance pattern on repeated task items can be observed and analyzed. Responses to the specific test items are identical to the responses required in the child's school curriculum.

Since the Center exists to bring about help to handicapped children, evaluation based upon what happens to the child is treated as a concept of singular importance. At the present time, the Center employs a computer-based child-referenced evaluation system which permits maximally precise monitoring of the effects of its various field activities in terms of what is considered to be the basic dependent variable, i.e., pupil performance. The rationale for this is that the best indicator of whether educational services have been or are being improved must be the changes reflected in the educationally relevant behaviors of the recipients of the services.

There are basically four functions of the evaluation system: to document and store all data collected by the Center in the course of its field activities; to analyze these data as a whole to determine the overall effectiveness of Center activities in the field; to analyze these data on an individual program level to determine the specific areas of effectiveness and to determine individual child progress; and to analyze across programs with respect to certain defining parameters (e.g., academic vs. management) to determine the existence of any generalizable "high probability" tactics which could be recommended for large-scale implementation.

In keeping with its strong orientation to child referenced evaluation, the Center encourages in-classroom use of tactics for the analysis of child performance as an aid in educationally relevant decision making, and emphasizes these tactics in its training programs.

Given the basic model of diagnostic/prescriptive teaching, the Center approaches its mission of improving services to handicapped children from the point of view of developing coordinated systems of human, materials and facilities resources with potential for providing free public education to all handicapped children, as opposed to serving children directly (albeit a large scale local service program is maintained for the purpose of developing and demonstrating techniques to be implemented in the broader systems). The resource system referred to is seen as a multi-level, multi-function organization of services which, as a system, operates as a dynamic interface between the communities of producers and consumers of knowledge about educating handicapped children.

By the means described, the Oregon Center works toward the goal of establishing a region-wide resource network having the potential to continuously acquire useful knowledge relevant to the problems and solutions for handicapped children, to translate what is learned into effective educational services, to input such services to children via practicing teachers, and to complete the information loop by systematically evaluating the resultant status of educational services and needs.

STRATEGIES OF THE UTAH CENTER TO ACCOMODATE THE UNIQUE
REGIONAL REQUIREMENTS

Dr. Judith Buffmire ¹

It should be relatively easy to tell you about the unique characteristics of Utah. The Utah Travel Council annually spends thousands of dollars on advertisements which state "Visit the Unique World of Utah." The Mormons, who constitute the majority of the population, pride themselves on being "a different people." We do have the greatest snow on earth...a dinosaur quarry ...and "Salt Water Taffy". Utah ranks near the top in amount of money spent on education and is first in the fifty states for median number of grades completed by students. Conversely, Utah ranks near the bottom in per capita income.

Delivery of special education services in Utah has been above the national average, but at least 40% of the exceptional children are still not receiving any support services. A form of equalization of district funding exists, but there is still great disparity among services available in different districts. Some districts cover hundreds of square miles and are extremely sparsely populated. According to the 1970 census, Beaver District has total population of only 3,800; to Salt Lake District, with 458,607. The exceptional children in many of these districts have never been removed from the regular classroom because there was simply no place for them to go.

When we surveyed the needs of the state, we found there were widely divergent opinions as to what the actual problems were in the classroom, compounded by the actual problems particular to districts; that there was some uniformity in special class placement criteria, but no uniformity in actual practice because of the different resources available in the districts; that the teacher in the classroom--the one facing the action--had problems she wasn't solving to her satisfaction....whether she was in a district with minimum or maximum services. And perhaps most important, she was feeling keenly the need to improve her skills repertoire, because she did care very much about the quality of the education her students were receiving....and she was aware of the unmet needs of children.

Several strategies seemed called for:

1. Paramount was the development of a communication network: The State Department of Education and local district personnel should be involved from the beginning in the co-planning. This would assure implementation of

1. University of Utah

changes found to be necessary. Since the project is funded through the Dept. of Special Education, University of Utah, this level was and will always be an integral part of the project dynamics. This involvement assures the mechanics for instituting preservice and inservice training to meet identified needs.

2. Some initial data could be obtained most efficiently by mail.

A survey on special class placement procedures and expectations from such placements was made by letter to the districts. A questionnaire to determine teachers' attitudes toward the handicapped, and to identify classroom problems was answered by 356 teachers. A couple of sidelights from these results might be interesting, although I would guess these results would not be unique to Utah: The classroom behavior rated most serious by most teachers was inattention. To the question "Based upon your total teaching experience, in a class of 30 students, how many would you estimate would be classified as difficult?" The average was 5.3 students. To the question "Assuming you had a normal class load of 30, how many mildly retarded children would you be willing to accept in your class?" The sample average was 2.2. This is especially interesting since two-thirds of the respondents teach in the districts where support services are minimal and self-contained classrooms few and far between. Most likely, many of the teachers already have more than 2 mildly handicapped children already in their rooms. This surely speaks to the labeling issue.

3. The third requirement was to serve kids who need help without labeling them where possible....to place responsibility on the system to meet individual needs, instead of the child to fit the system.

4. Thus, in the areas of teacher-pupil interaction, several facets emerged:

- a. what are the actual problems in the classroom?
- b. what variables influence the success of interventions?
- c. what is happening to the handicapped children who do not now receive special services?
- d. are classroom problems centered mainly around these children?
- e. what are the components of a system for delivering available resources in the state to a learner?
- f. what are the affective variables which can be measured or observed which identify teachers who are successful with these children?
- g. would a resource person for teachers enable more special

education children to remain in the regular classroom,
and if so, what are the competencies needed by this person?

The necessary data on these questions centered in actual classroom dynamics; a role thus evolved for a special educator who could be present in the classroom as a trusted colleague of the teacher: there to help her learn new problem-solving techniques, new ways of interacting with the children, better ways to read the classroom climate and see how it is involved with the problem. And at the same time, this person would be recording data on the problem as perceived by the teacher, and by himself, of the alternatives considered, rejected, and utilized, and the success of these interventions. To find out what the problems actually are of a handicapped child in the regular classroom.

To avoid preconceived notions about this role, it was felt a new title should be created. Since this special educator would be helping the teacher find new strategies, and since he would also be involved in diagnosing the many variables operating, the title evolved from these two functions: combining strategist and diagnostician, we came up with the job title, "Stratistician."

Last September when school started, we had five stratisticians placed in five elementary schools--or five local resource centers--and we had one person placed in an SEIMC, as an intermediate resource center. The five are regular "in-house" faculty members. They share hall duty, lunchroom duty, and all the various and sundry tasks given to teachers. They do not, however, have any children assigned to them. They respond to any teacher's request for assistance--either in the regular or special class. The sixth works in a very large six-county region. His role, of necessity, differs from the "in-house" stratisticians. Time seldom permits him to observe a child with the problem in the classroom. He works with groups of teachers on problem areas and coordinates available resources.

The primary focus of the stratisticians has been to gather data on the problems in the classroom. This goal this year, rather than testing the stratistician model per se, we feel will give a solid base for building more effective training packages, both in-service and pre-service.

The fame of the stratisticians is spreading, however. We're having calls from districts who want 14 next year, or 12 next year, or at least some next year. The principals in whose schools the stratisticians now work are very reluctant to think about doing without "their" stratisticians. The teachers are most enthusiastic of all. They are able to deal with problems they couldn't handle before, they are happier with the climate they're creating for all the children in the class--not just the ones whose problems are referred to the stratistician.

We do not yet know whether the statisticians are filling roles that already exist in traditional support service programs. We do know that services from other support personnel have improved in the schools where they are available. And we know that regardless of the support services available, all six are very busy people. We're getting the data necessary to support valid change in easily transferable and useable forms. However, the statistician model is not a panacea. In a recent meeting in rural Utah, one superintendent said, "I really need a person to function like that, but it is impossible." "Why impossible?" I responded. "You have 3½ DU's. Take one and instead of a contained class, release the person to function as a statistician. Place the children from the contained room in the regular stream, and let the RMRRC see how it can help." He said, "You just don't understand. I only have four teachers in the whole school, where the special education teacher is who I might be able to release. Two of the other three teachers can't handle the problems they've got. The third just couldn't manage all those from the special class." I at last heard his concern. No one model will meet the many needs on the continuum of service. Ways to help facilitate--reshuffle and/or supplement resources available, must be part of what we're about.

In a nutshell, the problems we discovered are too many children who aren't receiving help, too little money available, too many teachers needing on-the-spot help which would enable them to teach more effectively.

The strategies thus far employed are:

1. A cooperative approach to problem-solving and implementing long-range change through communication with the university, the State Department, and the local district agencies.
2. Data collection--by mail, by statisticians, and by the center back-up staff members.
3. An underlying concern in all areas for the affective domain, as well as a commitment to capture and more effectively direct this elusive variable.

We have gone out into the Rocky Mountain Region in a very limited way only, primarily through requests for consultation from the Idaho State Department of Education. But we feel the problems in the Region will be very similar to Utah's. And we are just about to the point we feel we can offer constructive guidelines for implement valid change.

Perhaps the states are pretty much like the children we speak about all the time: we can honor the uniqueness of each, but we can't lose sight of the similarities. And the problems we share as special educators are probably more alike than different. Identifying and meeting needs of these similarities and differences will be the basis of "outreach" in our Region, and is the cornerstone of the Resource system.

Judy Ann Buffmire
CEC Convention
Washington, D.C.
March, 1972

JAB:sg

The Birth and Early Development of a Resource System

William S. Wright, Field Director
Regional Resource Center

The birth of the resource system most likely has its roots in the concept of the Special Education Instructional Materials Centers. In 1962 a Presidential Task Force recommended that the United States Office of Education develop and establish Instructional Materials Centers for handicapped children and youth. Two pilot centers, one in Los Angeles, California, and the other in Madison, Wisconsin, were subsequently funded in 1964. The success of these two centers can be measured, in part, by the fact that there are currently 19 Regional Special Education Instructional Materials Centers, and media centers for the deaf, serving most of the states in the Union.

In 1968, when James Gallagher was Associate Commissioner of the new Bureau of Education for Handicapped Children and Youth, he suggested that "the basic objective of the [Special Education Instructional Materials] centers is to shorten the communication lag between those who have the necessary knowledge and skills, and those educators who need and wish them to use them."

The concept which underpinned these centers and the ERIC Clearinghouses, which were also being established during the decade of the sixties, was to facilitate the division of labor in the United States' effort to educate children. Oliver Kolstoe, in his book

Teaching Educable Mentally Retarded Children, paralleled this division of labor with that effected in the Agricultural Community: universities conducting research and development; county extension agents storing, retrieving, and translating the research efforts; and the farmer implementing those efforts--returning feedback on the results to the university through the county agent.

Education was characterized as missing the crucial intermediary "county agent," or interface in today's systems language, between producers of knowledge and implementers of knowledge. The Special Education Instructional Materials Centers, the media centers for the deaf, and the Council for Exceptional Children's ERIC were the first national effort designed to effect this linkage.

Through the network of Special Education Instructional Materials Centers and the media centers for the deaf, a proliferation of Associate Special Education Instructional Materials Centers and mobile media construction and utilization programs were established out of the regional centers at the local level. Together, with CEC/ERIC's efforts, the interface began.

In 1968, a pilot evaluation of the two prototype Special Education Instructional Materials Centers by the American Institutes for Research stressed the importance of resource person as a "key person for effecting change in classroom practices...." The Institutes for Research suggested that "in planning future activities the SEIMC's would do well to make sure they are reaching these people."

In the same year, Frank Withrow from the United States Office of Education, Bureau of Education for the Handicapped wrote the first public reaction to the as-of-yet-unfunded Regional Resource Centers for the Handicapped. These centers were characterized as being developed to "provide back up educational services to state and local agencies," to work with those children "whose handicaps are extremely complicated and pose major problems to local educational programs." Withrow concluded his discussion by suggesting that the "resource centers" may eventually evolve into bridges between the Instructional Materials Centers, research institutions, training institutions, and the state and local school systems.

To date there are six of these centers that are fully operational, with more in the planning stages. The currently operational centers are located in the following states: Oregon, Utah, New Mexico, Iowa, Pennsylvania, and New York. While each of these six centers are working with educators of the handicapped to up-grade services for these children, each is marked by its individuality in terms of the kinds of resources that are being focused on problems in their area.

James Moss of the United States Office of Education, Bureau of Education for the Handicapped, recently characterized the Centers as "not yet a reality, (nor) a mere figment of the imagination...." in the work they are trying to do; that is, interface between resources and those working with handicapped children.

We are certain, however, that the ingredients of a resource person's role would, as Knoblock stated in 1968: "Vary considerably, depending upon a number of local and regional factors." Some of these factors will be presented in the following discussions.

Service Through Change: The Resource Specialist

David Parsarell, Educational Services Director
Regional Resource Center

One of the keys in assisting teachers to make maximal use of resources, including knowledge, talent, materials, methods, support services, and other human and non-human resources, toward the end of helping handicapped children, is in the role played by a competent, multi-skilled person who might be called a Resource Specialist.

What is the Resource Specialist?

The Resource Specialist is the central figure in the total resource system; the principal change agent. This key individual is seen as an experienced master teacher, trained to assist teachers in several areas of educational practice which bear upon the successful learning experience of a child, and particularly the learning handicapped child. These areas of educational practice form the substance of diagnostic/prescriptive teaching. They include: educational diagnosis and prescription, instructional strategies, the instructional media and materials closely allied to these techniques, behavior management tactics and parent education.

What would this Resource Specialist Do?

The Specialist would (a) demonstrate skills in educational and behavioral diagnosis and prescription, instructional methods, media

and materials utilization, and parent education, (b) participate in the process of selecting and training other key resource personnel at the level of the school or Local Education Agency, and (c) provide consultant, instructional, and service support to the established local resource system for handicapped children. The Resource Specialist would typically serve several schools on an itinerant basis, and would be clearly identified as a person whose function is to develop systems of human, materials, and facilities resources toward the improvement of educational services for handicapped children. Unlike reading specialists, speech therapists, special class teachers, and other predecessors, the Resource Specialists are generalists whose skills enable them to deal with a variety of learning disabled children's problems and assorted concerns. Moreover, they are competent at encompassing the logistics of in service training within the context of the classroom, and knowledgeable in the basic elements of systems design and development as it relates for their mission.

How Would the Resource Specialist Do It?

The Specialist would begin the task of building a system of resources for the learning handicapped child by demonstrating the effective utilization of exemplary resources, including diagnostic, prescriptive and instructional tools and techniques specifically applicable to individual children.

The Specialist's main emphasis would be upon transmitting these skills to teachers and other educational personnel. Direct assistance

to teachers would be provided within the environment in which the request for field in service originates. This assistance would take the form of instructing the teacher in the diagnosis of particular problems that an identified educationally handicapped child is experiencing, along with assistance in the prescribing of functional uses of techniques, methods, and materials necessary to implement a realistic education program for that child. The correction of education problems of learning handicapped children, whom teachers in training refer, would be carried on throughout the instructional period by both teacher and Specialist together. Thus, the teacher would have the opportunity to practice directly the competencies which are to be learned. It is expected that this model will provide not only improvement in child behavior, but also more effective classroom instruction, a preventative against further referrals.

The next point of emphasis to extend the system of resource help would be for the Resource Specialist to assist the local agency in identification and training of personnel to assume the role of permanent in-school resource personnel. These personnel, who might be called Resource Teachers, would carry out the resource program at the individual school level with the continuing support of the Resource Specialist. Concomitant with this process the Specialist would assist in the development of resource facilities. This might include a Resource Room to serve as a base of operations within the school, and also to meet unique needs of certain learning handicapped children that may require too highly specialized treatments for rapid adoption

by some teachers. The main function of the Resource Teacher/Resource Room program would be to diagnose specific learning problems, prescribe educational plans which will help to alleviate these learning problems, and assist classroom teachers in implementing and evaluating such plans.

The third step in the establishment of a resource system at the local multi-school level involves the Specialist functioning as a back-up resource to the individual school resource personnel. The Specialist would be the person who could be called upon to provide help when a Resource Teacher needed extra skills, extra consultation, extra training. The Specialist would link the individual school's resource system with intermediate agencies and state's resources, and the broader system of regionalized and national resource networks where and when available.

How Would the Resource Specialist Know It's Done?

Recognizing that the best laid plans, whether simple or complex, can be no better than their demonstrated effectiveness, the Resource Specialist would employ a child referenced evaluation system. The learning handicapped child's performance, that is, his behavior with respect to whatever, academic or social objectives the teacher wishes to designate, would be the data base upon which evaluation is made. The rationale for this is simple: the best indicator of whether educational services have been, or are being improved must be the changes reflected in the educationally relevant behaviors of the children for whom the services are designed.

Child oriented behavioral objectives would be specified and teachers would systematically monitor the child's performance in relation to these objectives. By utilizing the techniques of diagnostic-prescriptive teaching and child referenced program evaluation, teachers would be able to determine a child's level of performance and design a program to change this level in desired directions. They would also be able to utilize systematically collected data to measure the child's rate of improvement and determine when to advance the child to other programs, or make program adjustment to facilitate his learning.

Having this type of information attained, it follows that one crucial role remains for the Resource Specialist: the collection and transmission of such information to critical points in the total resource system for the purpose of contributing to a broad knowledge base which would ultimately lead to a greater understanding of the learning handicapped child, his problems, his unmet education needs, and the most workable solutions.

To summarize, the Resource Specialist is conceptualized as a change agent with the particular mission of building systems of educational services for greater numbers of learning handicapped children. Trained as generalists in basic educational strategies for a wide range of handicapping conditions, and skilled in methods of in service training, resource systems development at the local level and evaluations based upon the performance of the child, they function

alternately as demonstrators of exemplary resources, trainers of teachers, and facilitators of the function of other resource personnel in the schools they serve.

Ultimately, as such systems are established, the Specialist assumes the additional role of the vital link between the practicing educators and those who produce new knowledge and techniques relevant to learning disabled children, thus helping to make possible not only improved delivery of services but also improved understandings of such children, and improved efficiency in solution seeking.

The Interface Concept: Implications for a
Total Special Education Resource System

James E. Crosson, Director
Regional Resource Center

Improved potential for both the implementation of exemplary services for handicapped children, and the facilitation of utilization of research products is seen as a critical need if new concepts and models in special education are to be realized. As revised percepts and definitions of handicapping conditions come into being, and as the focus of service concepts expands to include the needs of learning handicapped children in regular classrooms, a functional vehicle for the transmission of knowledge about such children and their special needs into educational practice is mandatory.

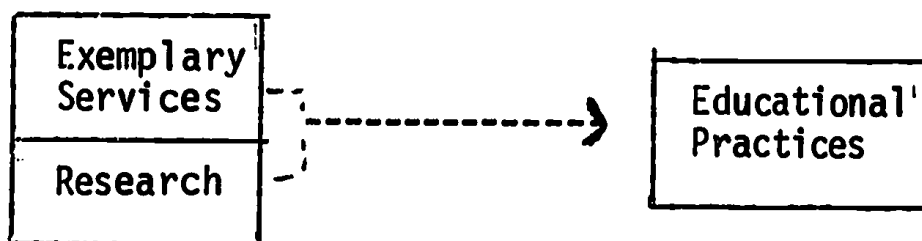
The need for effective systems of translating technical knowledge into practice is well documented. Despite the millions of dollars invested in research and development, there is evidence that the educational community remains largely unchanged; yet the potential for adoption of innovative, effective programs is, given certain conditions, quite good (Hearn, 1970).

The apparent contradiction of these two bodies of information may be viewed as the result of a failure in the communication link between the producers and consumers of educational innovation. As Goodlad discussed, while teachers are hungry for knowledge which would help them improve their effectiveness, "There is not...any effective structure by means of which countervailing ideas and models may be

pumped in and developed to the point of real alternatives" (1970, p. 99). And as Lilly (1971) has implied, the problem is not entirely the fault of the community of educational practitioners, but is shared by the perpetrators of traditional concepts of training. Haskeu has asserted, "...teaching can no longer be planned for as if we know what it is and all we have to do is train somebody to follow the well travelled pathway" (1965, p. 12).

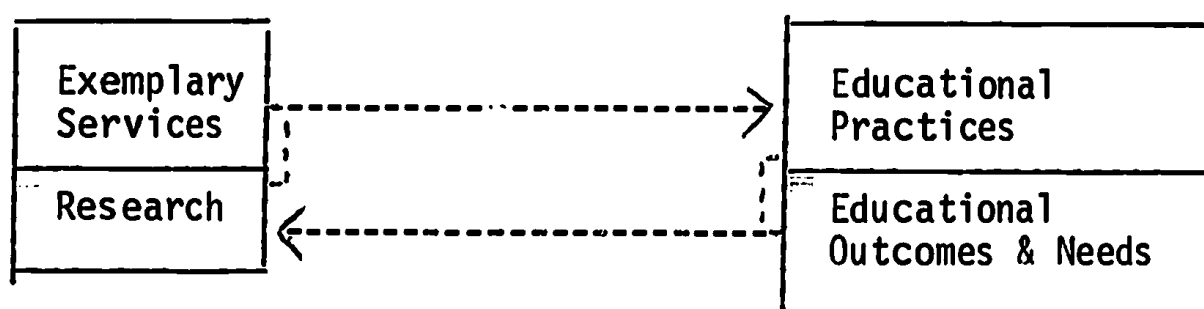
If the above statements are taken as valid, then the problem requires a solution predicated upon a model for effecting professional, as well as product, development; and the goal, in its broadest sense, must be to acquire knowledge from anywhere and put it into practice everywhere.

But there is a further implication. If one accepts the concept of a communication link as the means by which knowledge is translated into practice, it must also be recognized that this process--as stated--is singularly one-sided, as shown in the following diagram. This



would seem to overlook the possibility that useful knowledge exists in the educational community, or that important knowledge about educational outcomes and unmet needs can, in fact, be derived from educational practices.

Perhaps a more useful concept of communication would include a two-way system with input and output capability for both the research and exemplary services systems and the educational practices systems, as shown below:



Although attempts are widespread to achieve this type of two-way communication, the writers quoted at the beginning of this discussion, among many others, appear to bear witness to the lack of effectiveness of these processes as now practiced. It would seem that the need exists for a functional interface between the two systems.

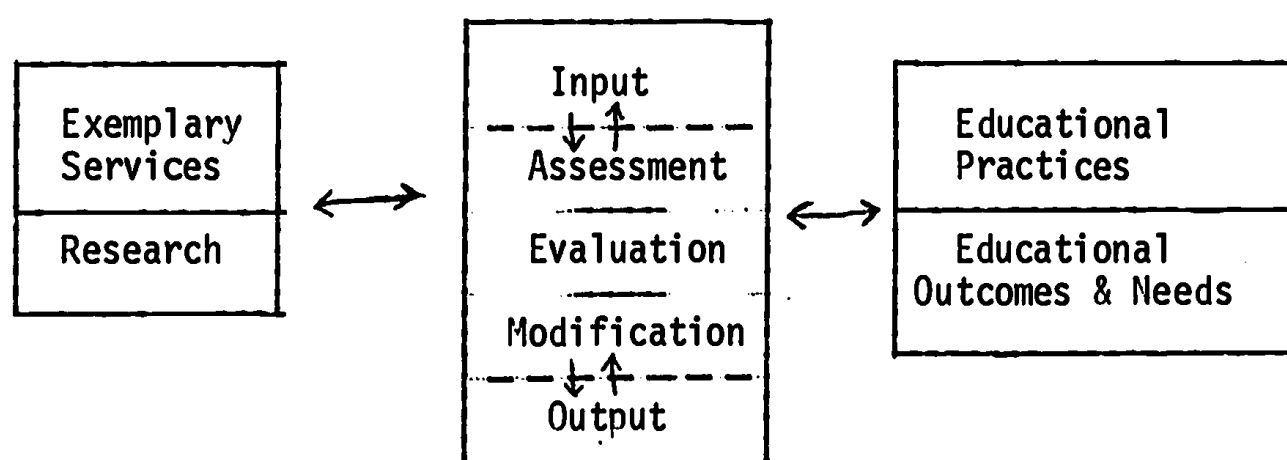
Handy and Hussain (1969) define the term interface as the "...relationships between various segments of work efforts. It connects the events and activities of one area that constrains completion of events and activities in another work area."

As the term is employed in this discussion, the interface would perform the functions of communicator necessary to the process of translating knowledge and research products into implementable form, putting it into use in the field, acquiring new knowledge as a result of field practices, and making appropriate modifications in the state of the knowledge upon which researchers base their activities.

This would imply that the interface would in itself be a system, one that would not only have the capability of effective output of

research products, but would also exercise its potential for inputting relevant information from the educational community. More importantly, this interface would function as a dynamic system that is capable of modifying its outputs to match the characteristics of the various consumer sub-systems, thus maximizing the probability of effecting desirable improvements in educational services to learning handicapped children.

In order to accomplish this, the interface would maintain a process of systematically monitoring relevant domains of the educational system for the purposes of assessing needs, evaluating outcomes, and providing resultant modifying inputs to both its own processes and the research and demonstration systems, as suggested in the following diagram.



Since the mission of the interface system would be to help bring about improved educational services to greater numbers of learning handicapped children, its focus would logically rest upon the development of resources: manpower, methods, and materials. Since programs now exist to produce such resources, a major function of the interface

would involve coordination of the application of such resources, and the collection of evaluative information resulting from such applications.

In as much as the purpose of applying (or developing) such resources is to help learning handicapped children, the principal target of the coordinated resource applications would be classroom teachers, and the modes of application would emphasize models for effecting professional development, including field-centered training programs and correlated child-referenced performance evaluation.

The key to establishing such a system seems to be the development of change agents within the educational community. Williams, et. al. (1968) in evaluating prototypal Special Education Instructional Materials Centers, noted that persons in supervisory or consultative roles who are in frequent direct contact with classroom teachers are most effective in establishing new resources.

That such personnel are or do become functionaries within existing educational sub-systems appears critical. Numerous reports (eg., Hearn, 1970) allude to local commitments (including planning, personnel, and monies) as predictors of successful implementation and adoption of new programs. Thus, commitment of such personnel by educational agencies, as well as commitment by such personnel to the role of change agent, appears a first criterion of feasibility.

Beyond this, in order to maximize the effect of the change agent, it may be necessary to anticipate at least minimal changes in the educational system both at the level of the classroom and the support (administrative) structure. While Hearn (1970) reported that the more

successful adoptions of innovative programs involved major changes or reorganization in the school system, there is ample evidence that imposition of programs upon existing educational systems has little chance of prolonged success. The concept and process of system change must be a commitment of the educational system itself. While such commitments cannot (and should not) be imposed by external forces, it has been suggested that outside agencies (state, regional, and national) can serve to stimulate and facilitate such commitments (e.g., Haskew, 1965, Howe, 1968). The second criterion of feasibility, therefore, seems to be a clear recognition and performance of the roles of stimulator, facilitator, and adopter within the context of participant planning for educational systems change.

Given a commitment to adopt changes toward improved educational services, the educational systems must view the outcome not as a static result, but as part of a dynamic process. This is not to say the world of education should become a system of random events -- indeed the problems are sufficient without this. Yet there is need for a systematic method of acquiring and evaluating new knowledge within the context of educational practices. Apparently, neither the systems of research and demonstration, nor the systems of educational practices have this capability. It may also be the case that they should not be expected to assume direct responsibility for this process.

It would seem that the process of translating knowledge into practice and evaluating the effects requires a third system that is

functionally independent of the procedural requirements of formal research and the administrative processes of education. The third criterion of feasibility, therefore, requires that a structure be established whereby research products can be collected and assessed in relation to prevailing educational needs, and systematically processed for appropriate input to existing educational systems without assuming the formal processes of research or the legal-administrative processes of educational management.

Using the foregoing feasibility criteria as a guide, one can conclude that the interface system should be conceptualized as a specialized collector of talent and resources which has the capability of drawing upon the body of knowledge about educating learning handicapped children, developing methods of implementing this knowledge in educational systems, evaluating the resulting educational effects and needs, and feeding this information to the producers of new knowledge. To function properly, such an organization would be independent of control by research policies or educational management responsibilities, but would have broad scale access to research products and would maintain close functional relationships to educational agencies.

Ideally, the system would operate as a Center funded by federal or private monies, or on a service contract basis. Depending upon the circumstances of needs and distance, a given Center would most likely serve several states, and would work in consort with state agencies to effect agreed upon changes in intermediate and local

education systems by developing resources through field-centered (those which occur in the context of educational practices) training programs. Such programs would follow a time-frame which begins with identification and training of key personnel to function as change agents. These personnel would, in turn, work within the context of the educational agency to further develop additional human and material resources toward the goal of establishing local and intermediate resource systems capable of functioning as the "front-line" components of the interface system.

Additionally, each Center--utilizing computer systems--would operate to systematically acquire, process, store, retrieve, and disseminate, in cooperation with other regional and national agencies, specific information relevant to the tactical solution of educational problems posed by learning handicapped children. Such information would be output on an as-requested basis through established change agent personnel to the individual school personnel requesting the service.

Finally, each Center would utilize its field communication systems to obtain data relevant to program evaluation at the level of the local resource systems it serves, process the data for feedback to state educational agencies and the appropriate regional and national agencies in the form of needs assessment and program effectivity statements.

To the extent that such a system could become operable in each state, and effective coordination of such program with other service and research programs could be established at the national level, the

potential for a total special education resource system becomes very real, and the concept of taking knowledge about how best to educate handicapped children from anywhere and implementing it everywhere begins to look like something more than a dream.

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A Multi-Dimensional Field-Centered Training Model

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One of the primary objectives of a field-centered training program is that teachers be provided with the opportunity to acquire new instructional skills throughout their professional careers. There are several reasons for making provision for the continuous up-dating of professional skills. Research and demonstration programs are continually out-putting new strategies and tactics for increasing the effectiveness of instructional programs. However, there are currently few systematic, functioning programs for assisting teachers in adapting research and demonstration products to their daily classroom instruction. As patterns of educational service for children with learning or behavioral handicaps move toward plans for increased integration in regular educational programs, classroom teachers are confronted with the need to acquire additional specialized instructional skills. There is also a current emphasis on the classroom teacher being able to objectively assess the effectiveness of her programs. The majority of teachers did not receive pre-service training in the skills necessary to evaluate the performance of individual handicapped children and to use that information in making educational decisions.

While the needs of classroom teachers to receive additional training are frequently cited by the educational community, the means of meeting those needs have been generally less than rousing successes. Traditionally the up-dating of professional skills has been through programs at colleges

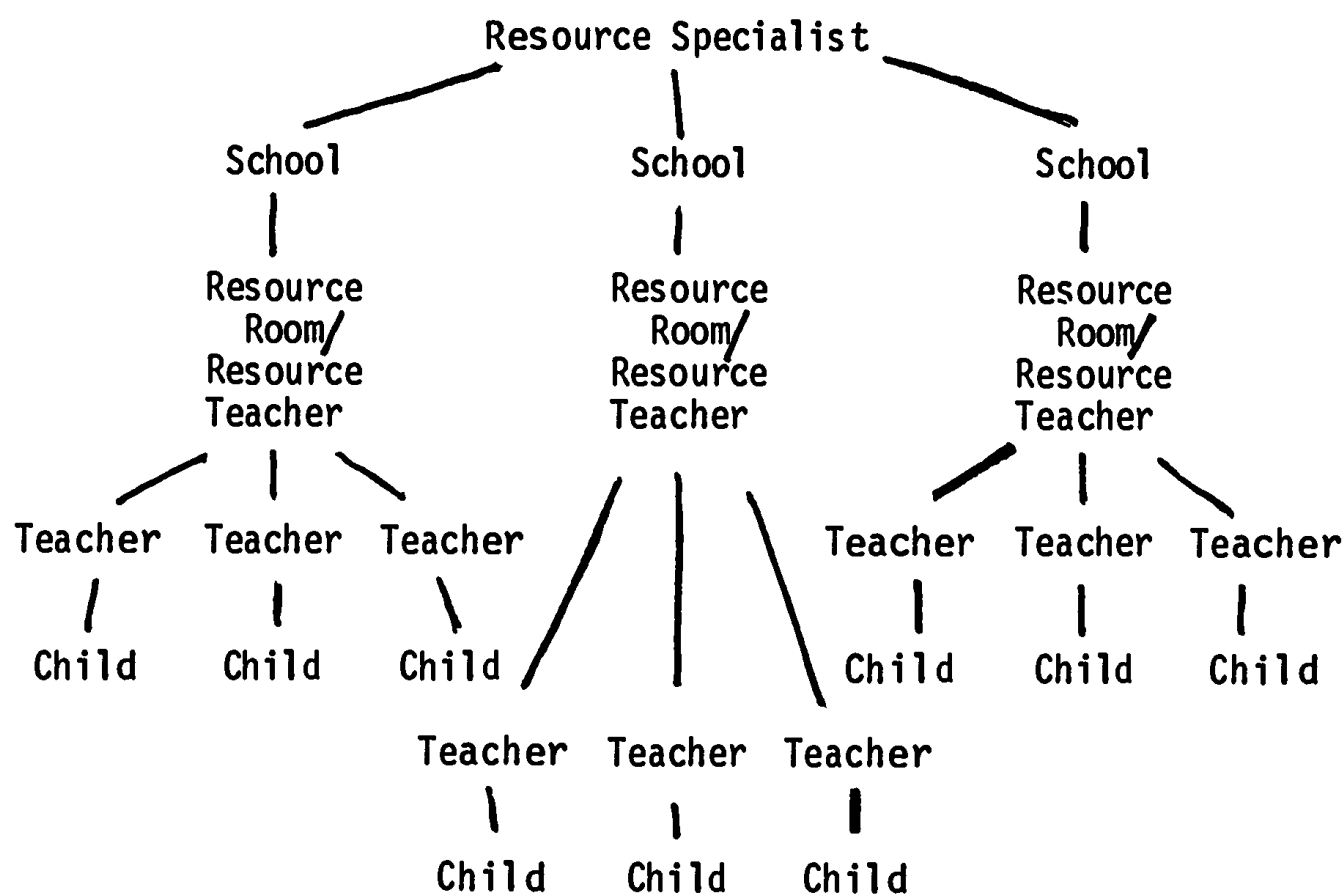
and universities or the local level. Both approaches have been found to be not fully satisfactory for a number of reasons. University or college based programs often do not represent any near approximation to the actual problems confronting a teacher in her classroom.. The knowledge acquired in the college or university programs is often limited in its utility by the failure to develop practical implementation competencies. Local inservice programs usually occur once a week, once a month, and not infrequently once a year, just before school starts and before the teachers have had a chance to see the children they will be teaching. The topics of the programs and the skills developed are often too general to meet the specific needs of a given teacher. A problem common to both college and university and local inservice programs is that none of them is designed to specifically develop those skills the teacher needs to meet the instructional needs of the particular handicapped child in her classroom.

Using the preceding problem statements, the general characteristics of a continuing professional skill development program for teachers can be suggested. The program should occur at the local level and be designed to develop those skills required of the teacher to meet the instructional needs of her educationally handicapped students. The design of the program should reflect a minimum of arbitrary, externally imposed objectives for the teacher's professional skill development. Training should occur almost daily or at least a program should be planned by which the teacher's daily use of new skills is promoted and evaluated. The training program should also have interlocks back to the producers of knowledge and demonstration programs to support a continual infusion of new ideas to the teacher in the field.

The above considerations focus on the development of skills a classroom teacher uses to instruct handicapped children in her class. Another difficulty encountered by teachers who acquire new skills is not being able to implement their programs. The factors working against successful implementation are often outside the direct control of the classroom teacher. In order to employ her new skills in the classroom, she may require changes in curriculum goals or sequences, the physical environment, the patterns of coordination of support services, or changes in general administrative policies. Modification of these factors requires the active participation of a person in a position of administrative program authority. That person should also be trained in the necessary skills and concepts to complement, facilitate, and develop the instructional skills of the classroom teacher.

Each of the preceding factors represent some of the determinants of a field-centered training program that is designed to develop the instructional skills of classroom teachers, provide for continuing refinement of those skills, and to promote the necessary local educational program modifications to support the classroom teacher's implementation of her newly acquired skills.

Discussion of the functions of a resource program at the local, multi-school level will help to identify the ways in which a field-centered program can accomplish its objectives for improvement of the skills of individual classroom teachers. A general organizational model can be represented as follows:



(figure 1)

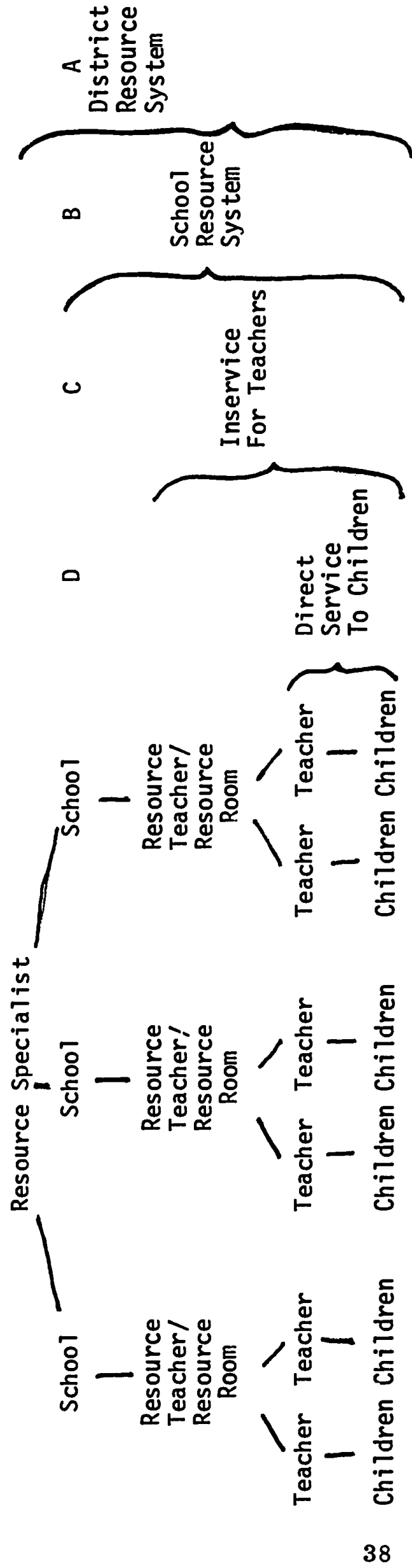
The Resource Specialist represents the local person with certain administrative program authority who acts as a developer and facilitator of the local resource system. One of the most important outcomes of the model is that it is a generative model of training and service. Each individual teacher/child unit is served by an integrated program composed of each of the other units. The next figure provides some further description of the levels of functioning of the basic local resource system model.

 Insert Figure 2 about here

The model also helps to identify the various alternatives to delivery of training. At level D the classroom teacher is concerned with programming for a specific learning problem of a specific handicapped child. The resource teacher in this situation meets the instructional needs of a child by training the teacher in the appropriate programming skills. By

Figure 2

Local Resource System Model



Levels

- A. This level encompasses the total program in a district with an itinerant Resource Specialist coordinating system development at district and school level, training of teachers through inservice, and direct services to children through teacher skill development to meet the needs of an individual handicapped child.
- B. This level focuses on the development of a single school's resource system with a Resource Teacher and Resource Room serving the teachers and children of the school under the supervision of the district Resource Specialist.
- C. This level represents teacher skill development in general areas of diagnostic and prescriptive teaching.
- D. This level is directly concerned with the educational problems of a given handicapped child and utilizes the higher levels of the system to obtain training services or materials needed for the child.

means of a continuing program of service through learner-task specific training, the classroom teacher can develop a comprehensive set of new skills that are uniquely relevant to her own instructional situation. Also the system is a continually responsive program that can disseminate new skills and refine old ones. Level C represents a somewhat more generalized form of organized inservice training. At this level a topical area such as diagnosis, prescription, materials production, or behavior management may be identified as the focus of a training program for several teachers. It was pointed out earlier that even local level inservice programs tend to be less specific than is needed by teachers. The resource system makes it very possible to increase the specificity of the inservice training content and to relate it to each teacher's own daily instructional tasks. The Resource Teacher can then provide daily monitoring and supervision of the teacher's application of her skills in the classroom.

By using the information obtained in training programs at levels C & D, the Resource Specialist can make provision for exactly what kinds of material or professional resources are needed to make the overall training program effective in up-dating the classroom teachers skills.

This discussion to this point has been focused on a training program at the local district level. Within that program there is a chain of support running from the classroom teacher to the Resource Teacher to the Resource Specialist. The training program of a Regional Resource Center implements the model through training of the Resource Specialist. Support is given the local Resource Specialist through the Regional Resource System in the same way the local resource program delivers support to the classroom teacher.

The content of the Regional Resource Center training program is designed to develop direct instructional competencies, training skills, and systems organizational skills of Resource Specialists. The particular content areas of the knowledge and competencies related to instruction are summarized below:

A. Direct Instructional Skills

1. Diagnosis

Individualized assessment of learner skills - utilizing such procedures as criterion referenced testing.

2. Prescription

Specification of learner skill development needs based on detailed analysis of his abilities.

3. Instructional Programming

The integration of learner skill development needs with the planning of instructional task sequences to develop those skills.

4. Evaluation

The use of continuous, objective data to assess improvement in learner performance and effectiveness of instructional programs.

5. Behavior Management

The development of behavior management programs to reduce the interference in the acquisition of academic skills by general classroom behavior problems.

6. Parent Education

The active coordination of parents into total education programming for the child.

7. Materials and Media

The design and production of individualized instructional materials and media.

B. Training Skills

1. How to identify the specific training needs of a given teacher.
2. How to train in specific instructional skills.
3. How to organize training programs.
4. How to evaluate the level of competency development of a teacher.

C. Systems of Organization Skills

1. How to identify educational resources.
2. How to organize and deliver educational resources to handicapped children.
3. How to identify administrative changes to support a resource system.
4. How to implement those administrative changes.

The training program at the Regional Resource Center uses specific competency statements for the performance of the Resource Specialist trainee in each of these areas. Further, those competencies are broken down into demonstration of skills in direct instruction of handicapped children and demonstration of the ability to train other teachers in those skills. Through utilization of the Regional Resource Center's on-going service program, the trainee Resource Specialist is trained in the district and school level organizational and implementation skills necessary to support teacher application of new skills.

SUMMARY

The resource training program presented in this paper provides classroom teachers with the means to acquire new skills based on the instructional needs of their own students who are educationally handicapped. The

teachers develop those skills in their own classrooms. Finally, the Resource program facilitates those broader educational system changes necessary to support the teachers use of their newly acquired skills.